

GD-70D

Toxic Smart Sensor

- Monitor combustibles, O2, and a wide range of toxics
- Plug and play intelligent sensors retain calibration and sensor data
- Common platform (main unit / sensor / pump) for all detection methods
- Universal main unit (all sensor types)
- Multifunctional sensor unit (new Intelligent sensor)
- No internal tubing (main unit) / No coil (pump)
- Front access, no tools required, easy sensor and pump replacement
- Large size LCD screen
- Various communication methods available (4-20mA, LonWorks, and PoE)
- Minimal maintenance cost through enhanced troubleshooting firmware functions
- Small mounting space
- Environmentally friendly
- Wide variety of sensors available

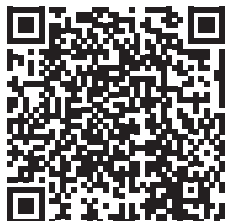
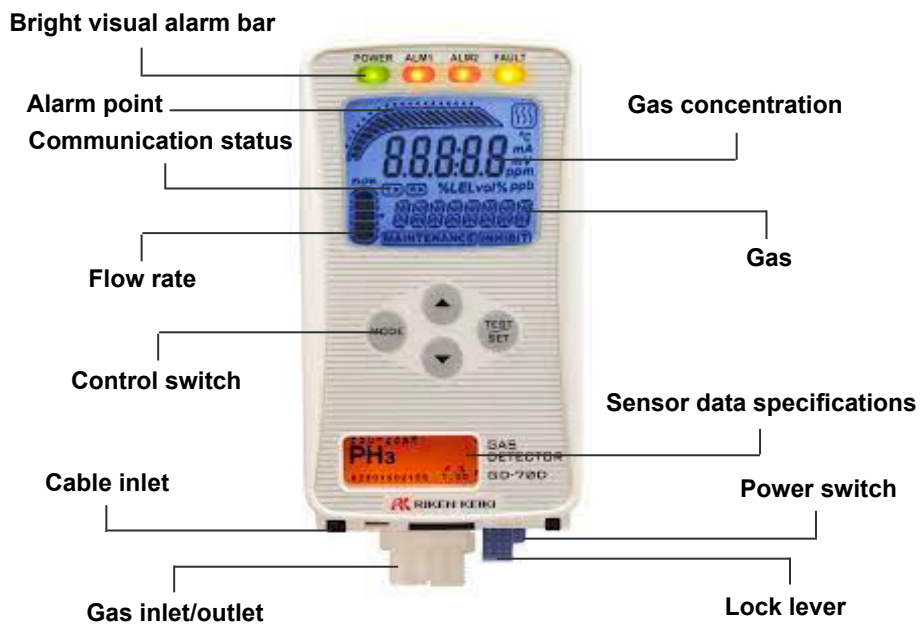


APPLICATIONS

- Battery room monitoring
- Hydrogen specific

OVERVIEW

The new model GD-70D smart gas detection transmitter series sets a new standard for performance, flexibility, and versatility. The GD-70D sample-draw transmitter offers an array of sensor technologies unmatched in the industry, including unique offerings, such as our hydrogen-specific or LEL versions.



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 For More
 Information

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Main Unit			
Model	GD-70D	GD-70D-NT	GD-70D-ET
Communication	4-20mA DC	DC power line communication	PoE method
Detection principle	Different type depending upon sensor unit and detectable gas (see table)		
Sampling method	Sample drawing types (auto-adjustment of flow rate) 0.5 / min +/-10%		
Display	<ul style="list-style-type: none"> • Large LCD display (white backlight) • Gas concentration 		
Gas alarms	Two alarm levels: 1st alarm - Red 2nd alarm - Red Fault alarm - Yellow		
External output	1st, 2nd, and trouble alarms: Relay contact output for each alarm		
Self diagnostic function	System failure, sensor failure, flow failure, communication error NT / ET / Analogue		
Datalogging	Event history, alarm history, calibration history. Alarm trend (180 sec before / after 1st alarm)		
Operation temp./ humidity	0 ~ 40°C, 30 ~ 70% RH (non-condensing)		
Operating settings	All operational settings are user adjustable through front panel		
Power requirements	DC 24V+/- 10%, approx 1.5W (Max 4W including sensor unit)	PoE standard arrangement	
Dimensions & Weight	70mm W x 120mm H x 150mm D, approx 0.9kg, including sensor unit		
Mounting	Wall-mounting base plate by 2 or 3 screws		
Sampling tubing	4 x 6mm PTFE tubing recommended. Tube fittings provided as standard accessories		
Bushing	Cable type varies depending on communication method (Cable bushing optional)		

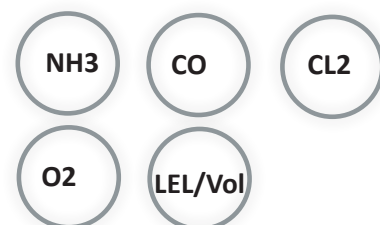
Sensor Unit					
Model	ESU	SGU	SSU	OSU	NCU
Detection Principle	Electrochemical cell	Semiconductor	Pyrolysis-particle	Galvanic cell	Catalytic combustion
Gas detected and detection range	Refer to list of detectable gases	0-2000ppm H ₂ , CH ₄ , or CH ₂ F ₂ (R-32) in air and others	0-15ppm TEOS in air	0-25% O ₂ in air	0-100% LEL H ₂ , CH ₄ , and others
Self diagnosis function	Sensor trouble, system failure				
Date logging function	Event history, alarm history, calibration history, Alarm trend (60 sec. before/after 1st alarm)				

Pyrolyzer Unit	
Model	PLU-70
Application	NF ₃ / TEOS gases detected in air
Usage	Used by connecting to "GD-70D" (Main unit)
Power Lamp	LED (Green colour) Normal: Light-on
Self-diagnostic function	Pyrolyser unit trouble Fan trouble System trouble
Operating temp. /humidity	0-40° C, 30-70% RH (non-condensing)
Operational settings	All operational settings are user adjustable through front panel
Power requirements	DC 24V+/- 10%, approx. 25W (max)
Dimensions & Weight	70mm W x 120mm H x 150mm D, Approx. 1.2kg
Mounting	Wall-mounting base plate by 2 or 3 screws
Sampling	4x6mm PTFE tubing recommended. Tube fittings provided as standard accessories
Bushing	1.25sq 2 core cable for power supply DC24V (Cable bushing optional)

Partial List of Detectable Gases

Many other gases or ranges available.

Contact Control Equipment for gases or ranges not listed:



The long life high capacity pump and wide variety of sensing elements are replaceable in a few seconds, with no tools required! The smart sensors retain all calibration and sensor-specific data in non-volatile memory, so sensors can be hot-swapped in the field with no programming required. The sensors also retain calibration information, which means they can be conveniently calibrated separate from the transmitter, avoiding transport of calibration gases to field locations. The GD-70D firmware automatically corrects for long-term zero and span "drift" minimizing maintenance and maximizing reliability.

The GD-70D can be used as a stand-alone device, offering a number of communication protocols to existing PLC systems, or can be integrated with RKI's Beacon series of single and multi-channel controllers. All GD-70D transmitters include a large, easy to read integral LCD display, tri-colour bar graph for visual notification of alarm status, programmable low and high alarm relays, and fault relay. Pump flow is self-tuning for maintenance-free operation. Because all GD-70D base units are identical, sensors can be interchanged with no programming or tools required, resulting in maximum flexibility to the user.

Part Number	Sensor Unit	Gas	Full Scale	First Alarm	Second Alarm
4484 42	ESU-23RV	(CH ₃) ₂ NH (DMA)	0-15ppm	5ppm	10ppm
4484 43	ESU-23RV	(CH ₃) ₃ N (TMA)	0-15ppm	5ppm	10ppm
4484 44	ESU-23RV	(CH ₃ CH ₂) ₂ NH (DEA)	0-15ppm	5ppm	10ppm
4484 20	ESU-23R	Ammonia NH ₃	0-75ppm	25ppm	50ppm
4484 14	ESU-23AHS	Arsine AsH ₃	0-0.2ppm	0.05ppm	0.1ppm
4484 75	ES-23AHS-N	Arsine AsH ₃	0-0.2ppm	0.05ppm	0.1ppm
4484 52	ESU-23RV	BIS(Tertiary-Butylamino) Silane: BTBAS	0-15ppm	5ppm	10ppm
4484 64	ESU-23RVM	BIS (Tertiary-Butylamino) Silane: BTBAS	0-15ppm	5ppm	10ppm
4484 40	ESU-K233	Bromine BR ₂	0-1ppm	0.3ppm	0.6ppm
4094 34	SGU-8521	C ₂ H ₂	0-2000ppm	500ppm	1000ppm
4094 46	SGU-8524	C ₂ H ₂ F ₄ (R-134a)	0-5000ppm	2000ppm	4000ppm
4094 30	SGU-8521	C ₂ H ₄	0-2000ppm	500ppm	1000ppm
4094 32	SGU-8521	C ₂ H ₆	0-2000ppm	500ppm	1000ppm
4094 40	SGU-8521	C ₃ H ₆ O	0-1000ppm	250ppm	500ppm
4094 36	SGU-8521	C ₄ F ₆	0-200ppm	50ppm	100ppm
4094 37	SGU-8521	C ₄ F ₆	0-5000ppm	2000ppm	4000ppm
4094 39	SGU-8521	C ₄ F ₆	0-2000ppm	500ppm	1000ppm
4094 49	SGU-8521	C ₅ H ₅ N	0-500ppm	200ppm	400ppm
4094 50	SGU-8521	C ₆ H ₁₂	0-2000ppm	500ppm	1000ppm
4484 11	ESU-23	Carbon Monoxide CO	0-75ppm	25ppm	50ppm
4484 27	ESU-231	Carbon Monoxide CO	0-75ppm	25ppm	50ppm
4484 29	ESU-23	Carbon Monoxide CO	0-150ppm	50ppm	100ppm
4484 30	ESU-23	Carbon Monoxide CO	0-300ppm	100ppm	200ppm
4484 33	ESU-231	Carbon Monoxide CO	0-150ppm	50ppm	100ppm
4484 34	ESU-231	Carbon Monoxide CO	0-300ppm	100ppm	200ppm
4094 28	SGU-8562	Carbonyl Sulphide COS	0-2000ppm	500ppm	1000ppm
4094 45	SGU-8582	CH ₂ F ₂	0-2000ppm	500ppm	1000ppm
4094 48	SGU-8521	CH ₂ F ₂	0-9000ppm	3000ppm	6000ppm
4094 33	SGU-8521	CH ₃ CN	0-2000ppm	500ppm	1000ppm
4484 41	ESU-23RV	CH ₃ NH ₂ (MMtA)	0-15ppm	5ppm	10ppm
4484 21	ESU-K233	Chlorine Cl ₂	0-1.5ppm	0.5ppm	1ppm
4484	ESU-K233	Chlorine Cl ₂	0-3ppm	1ppm	2ppm

Part Number	Sensor Unit	Gas	Full Scale	First Alarm	Second Alarm
4484 65	ESU-K233L	Chlorine Cl ₂	0-1.5ppm	0.5ppm	1ppm
4484 66	ESU-K233L	Chlorine Cl ₂	0-3ppm	1ppm	2ppm
4484 24	ESU-K233C- S(A)	Chlorine Trifluoride ClF ₃	0-0.6 ppm	0.2ppm	0.4ppm
4484 28	ESU-K233C- S(C)	Chlorine Trifluoride ClF ₃	0-0.6 ppm	0.2ppm	0.4ppm
4484 70	ESU-K233CL-S(A)	Chlorine Trifluoride ClF ₃	0-0.6ppm	0.2ppm	0.4ppm
4484 71	ESU-K233CL-S©	Chlorine Trifluoride ClF ₃	0-0.6ppm	0.2ppm	0.4ppm
4484 58	ESU-253	COF ₂	0-6ppm	2ppm	4ppm
4484 73	ESU-K253L	COF ₂	0-6ppm	2ppm	4ppm
4484 62	ESU-23RVM	DEA	0-15ppm	5ppm	10ppm
4484 15	ESU-23AY	Diborane B ₂ H ₆	0-0.3 ppm	0.1ppm	0.2ppm
4094 14	SGU-8513	Dichloroethene C ₂ H ₂ CL ₂	0-600ppm	200ppm	400ppm
4094 29	SGU-8523	Dichloromethane CH ₂ CL ₂	0-2000ppm	500ppm	1000ppm
4094 26	SGU-8521	Difluoromethane R-32	0-2000ppm	500ppm	1000ppm
4094 38	SGU-8521	Difluoromethane R-32	0-5000ppm	2000ppm	4000ppm
4484 35	ESU-23DH	Disilane Si ₂ H ₆	0-15ppm	5ppm	10ppm
4484 57	ESU-23RVM	DMA	0-15ppm	5ppm	10ppm
4484 80	ESU-23RV-EX	DMA	0.9-15ppm	5ppm	10ppm
4484 81	ESU-23RVM- EX	DMA	0.9-15ppm	5ppm	10ppm
4484 63	ESU-23RVM	EMA	0-15ppm	5ppm	10ppm
4484 22	ESU-K233	Fluorine F ₂	0-3 ppm	1ppm	2ppm
4484 68	ESU-K233L	Fluorine F ₂	0-3ppm	1ppm	2ppm
4484 36	ESU-23DH	Germane GeH ₄	0-0.8ppm	0.2ppm	0.4ppm
4484 79	ESU-23DH	HCN	0.9-15ppm	5ppm	10ppm
4484 76	ESU-K233	HNO ₃	0-20ppm	5ppm	10ppm
4484 18	ESU-23E	Hydrogen Bromide HBr	0-9 ppm	3ppm	6ppm
4484 47	ESU-23E	Hydrogen Bromide HBr	0-6 ppm	2ppm	4ppm
4484 53	ESU-23E-G	Hydrogen Bromide HBr	0-6ppm	2ppm	4ppm
4484 32	ESU-23E	Hydrogen Chloride HCl	0-6 ppm	2ppm	4ppm
4484 19	ESU-23E	Hydrogen Chloride HCl	0-15 ppm	5ppm	10ppm
4484 54	ESU-K233-EX	Hydrogen Fluoride HF	0.4-9.0ppm	3ppm	6ppm
4484 55	ESU-K233-EX	Hydrogen Fluoride HF	0.4-3.0ppm	1ppm	2ppm

Part Number	Sensor Unit	Gas	Full Scale	First Alarm	Second Alarm
4094 11	SGU-8541	Hydrogen H2	0-2000ppm	500ppm	1000ppm
4094 21	SGU-8541	Hydrogen H2	0-500ppm	200ppm	400ppm
4094 22	SGU-8541	Hydrogen H2	0-1000ppm	250ppm	500ppm
4094 23	SGU-8521	Hydrogen H2	0-500ppm	200ppm	400ppm
4094 24	SGU-8521	Hydrogen H2	0-1000ppm	250ppm	500ppm
4094 44	SGU-8511	Hydrogen H2	0-2.00vol%	0.5vol%	1vol%
4484 37	ESU-23SD	Hydrogen Selenide H2Se	0-0.2ppm	0.05ppm	0.1ppm
4484 51	ESU-237	Hydrogen Sulphide H2S	0-30ppm	10ppm	20ppm
4484 59	ESU-K237IF	Hydrogen Sulphide H2S	0-1ppm	0.3ppm	0.6ppm
4094 13	SGU-8521	IPA: Isopropyl Alcohol C3H8O	0-2000ppm	500ppm	1000ppm
4094 41	SGU-8521	Isobutane i-C4H10	0-2000ppm	500ppm	1000ppm
4094 12	SGU-8581	Methane CH4	0-2000ppm	500ppm	1000ppm
4094 19	SGU-8511	Methane CH4	0-5000ppm	2000ppm	4000ppm
4094 42	SGU-8581	Methane CH4	0-5000ppm	2000ppm	4000ppm
4094 43	SGU-8511	Methane CH4	0-2.00vol%	0.5vol%	1vol%
4094 17	SGU-8521	Methyl Alcohol CH3OH	0-1000ppm	250ppm	500ppm
4094 18	SGU-8521	Methyl Alcohol CH3OH	0-2000ppm	500ppm	1000ppm
4094 27	SGU-8521	Methyl fluoride R-41	0-2000ppm	500ppm	1000ppm
4484 61	ESU-23RVM	MMtA	0-15ppm	5ppm	10ppm
4484 12	ESU-23A	Nitric Oxide NO	0-100 ppm	30ppm	60ppm
4484 38	ESU-23AH	Nitrogen Dioxide NO2	0-9ppm	3ppm	6ppm
4484 39	ESU-23AH	Nitrogen Dioxide NO2	0-15ppm	5ppm	10ppm
4484 13	ESU-23AH-D	Nitrogen Trifluoride NF3	0-30 ppm	10ppm	20ppm
019 25	SSU-1925	OMCTS	0-3ppm	-	-
4080 89	OSU-8078	Oxygen O2	0-25vol%	18vol%	18vol%
4080 03	OSU-8078	Oxygen O2	0-50vol% (H-HH)	-	-
4080 02	OSU-8078	Oxygen O2	0-5vol% (H-HH)	-	-
4484 25	ESU-K239C-S	Ozone O3	0-0.6 ppm	0.2ppm	0.4ppm
4484 72	ESU-K239CL-S	Ozone O3	0-0.6ppm	0.2ppm	0.4ppm
4484 16	ESU-23DH	Phosphine PH3	0-1 ppm	0.3ppm	0.6ppm
4484 26	ESU-23AH	Phosphine PH3	0-1 ppm	0.3ppm	0.6ppm

Part Number	Sensor Unit	Gas	Full Scale	First Alarm	Second Alarm
4094 15	SGU-8511	Propane C3H8	0-2000ppm	500ppm	1000ppm
4094 16	SGU-8511	Propane C3H8	0-5000ppm	2000ppm	4000ppm
4094 51	SGU-8582	Propane C3H8	0-2000ppm	500ppm	1000ppm
4094 31	SGU-8511	Propene C3H6	0-2000ppm	500ppm	1000ppm
4094 35	SGU-8511	Propene C3H6	0-5000ppm	2000ppm	4000ppm
4094 47	SGU-8511	R-245fa	0-5000ppm	2000ppm	4000ppm
4484 17	ESU-23DH	Silane SiH4	0-15 ppm	5ppm	10ppm
4484 31	ESU-23AH	Silane SiH4	0-15 ppm	5ppm	10ppm
4484 45	ESU-238	Sulphur Dioxide SO2	0-6ppm	2ppm	4ppm
4019 25	SSU-1925	TEB	0-1000ppm	-	-
4019 25	SSU-1925	TEOP	0-2ppm	1ppm	-
4019 25	SSU-1925	Tetraethyl Orthosilicate TEOS	0-15ppm	10ppm	-
4484 60	ESU-23RVM	TMA	0-15ppm	5ppm	10ppm
4019 25	SSU-1925	TMB	0-1000ppm	-	-
4019 25	SSU-1925	TMOP	0-10ppm	5ppm	-
4019 25	SSU-1925	TMP	0-3ppm	1ppm	-
4019 25	SSU-1925	Trimethoxysilane TRIMOS	0-15ppm	10ppm	-
4019 25	SSU-1925	Trimethyl Silane TMS	0-15ppm	10ppm	-
4019 25	SSU-1925	TRIMS	0-15ppm	10ppm	-
4484 56	ESU-23DH	Trisilylamine Si3H9N	0-15ppm	5ppm	10ppm